# ABSTRACT

## EFFECT OF METHYLCOBALAMINE SUPPLEMENTATION ON HOMOCYSTEINE LEVEL CHANGES IN ISCHEMIC STROKE PATIENTS

**Background:** Hyperhomocysteinemia (Hhcy) is defined as a pathological condition in ischemic stroke. homocysteine induces accumulation of reactive oxygen species (ROS) and modification of protein via homocysteinylation and involves functional modification of enzymes and redox balance in neuron and deteriorate ischemic stroke via apoptosis mechanism.

**Method:** This study was a pre-experimental study, The subjects were patients (18-70 years; GCS score 456) who were admitted to the General hospital of Airlangga University with ischemic stroke without dysphagia that had agreed to sign informed consent. Homocysteine serum level was determined by ELISA. Hcy level and NIHSS and measured before and after one month after start of treatment.

**Objectives:** This study aimed to analyze the effects methylcobalamin suplementation on Hcy level and NIHSS score in patients with ischemic stroke.

**Result:** The difference in hcy serum level of the ischemic stroke patients before and after treatment was not significant ( 18.47±16,373 vs 16.76±15.12; P value 0,059)so with the NIHSS score was not significant either (6,9±3,634 vs 6,1 ±4.7; P value 0,343). The correlation between difference of hcy serum level and decrease of NIHSS score was not significant with coefficient 0,433.

**Conclusion:** Methylcobalamin supplementation has no effect on the decline in levels of Hcy and NIHSS value and not correlated.


**Keywords:** homocysteine, methylcobalamin, ischemic stroke, NIHSS